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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,750	03/22/2004	James J. Finley	1924A1	9568

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Intellectual Property Dept.
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EXAMINER	
LANGMAN, JONATHAN C	
ART UNIT	**PAPER NUMBER**
1775	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/19/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/805,750	FINLEY ET AL.	
	Examiner	Art Unit	
	Jonathan C. Langman	1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 January 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-48* is/are pending in the application.

4a) Of the above claim(s) *1-28* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *29-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 August 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/19/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-28, drawn to a method, classified in class 427, subclass 165.

II. Claims 29-48, drawn to an article, classified in class 428, subclass 426.

The inventions are distinct, each from the other because of the following reasons: Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case group I, claims 1-28, teach a method for making a coated article comprising, providing a substrate, applying/forming a plurality of conductor coatings over the substrate, then electrodepositing a polymeric coating over the conductive coating. Another embodiment includes laminating another substrate to article. The article of group II, drawn to claims 29-48, provides a coated article comprising a substrate, a conductive coating over top, and a polymeric coating over top of the conductive coating. In a further embodiment a second substrate is placed over top of the coated article. The article of group II can be made by a patentably different method other than that provided in the method steps of Group I. The article of Group II may be made by placing a polymer in a mould, placing a plurality of conductive layers on top of the polymer layer, next placing a substrate on top of the conductive layer,

curing the article together and then remove the article from the mould. In another embodiment, another substrate may be placed into the mould first, followed by a polymer layer, conductive layer, and a substrate, finally releasing the article from the mould to yield a coated article as described in Group II, made by a patentably different method other than those described in Group I. Furthermore instead of electrodepositing the polymeric coating, this layer may be formed via sputtering, chemical vapor deposition, physical vapor deposition, etc. While it is noted that certain claims are product-by-process and incorporate the same process steps as described in Group I, a product defined by the process by which it can be made is still a product claim (*In re Bridgeford*, 149 USPQ 55 (CCPA 1966)) and can be restricted from the process if the examiner can demonstrate that the product as claimed can be made by another materially different process such as the alternative process described above (*In re Brown*, 173 USPQ 685, *In re Fessman*, 180 USPQ 324).

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Andrew Siminerio on 11/12/06 a provisional election was made with traverse to prosecute the invention of Group II, claims 29-48. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-28 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 29-40 and 42-47 are rejected under 35 U.S.C. 102(e) as being anticipated by Thomsen et al. (U.S. 2003/0064198).

In regards to claim 29, Thomsen et al. teach a coated article as seen in Figure 6. Thomsen et al. teach, "Vehicle windshields typically include a pair of bent class substrates laminated together via a polymer interlayer such as polyvinyl butyral (PVB). It is known that one of the two glass substrates may have a coating (e.g., low E coating) sputtered thereon for solar control purposes such as reflecting IR and/or UV radiation" (Thomsen et al., [0003]). Furthermore, "FIG. 1 is a side cross sectional view of a

vehicle windshield according to an example embodiment of this invention. The windshield includes first and second bent glass substrates 1 and 3, respectively, a coating (e.g., low-E coating) 5 provided on interior glass substrate 1, and a polymer based interlayer 7 (e.g., including PVB (polyvinyl butyral) or any other suitable polymer interlayer material) for laminating the two substrates together as illustrated" (Thomsen et al., [0038]). Figure 6, shows in detail a specific conductive layer made up of several layers including several dielectric layers, contact layers, and IR reflectors. The thicknesses of the many layers are described in Table 1 on page 6, *Example Coating Materials/Thicknesses; Fig. 6 Embodiment)*. The total of the "preferred range" thicknesses, as per Table 1, adds up to 120 angstroms to 4300 angstroms, which falls within the applicants' claimed ranges of greater than 0 and less than 25,000 angstroms. Thus Thomsen et al. teach a coated article comprising a substrate, at least one conductive coating over the substrate the conductive coating having a thickness in the range of greater than 0 to less than 25000 angstroms; and a polymeric coating over at least a portion of the conductive coating. Although the applicant has stated that the polymeric coating is electrodeposited over the conductive layer, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.", (In re Thorpe, 227 USPQ 964,966). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by

a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product (In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113).

In regards to claim 30, Thomsen et al teach a coated article, as described above, wherein the substrate is a glass substrate. A glass substrate is non conductive.

In regards to claim 31, Thomsen et al teach a coated article, as described above, wherein the substrate is selected to be glass, which falls within the applicants' substrate which is to selected from either glass or plastic

In regards to claim 32 and 33, Thomsen et al teach a coated article, as described above, wherein the substrate is selected to be glass. Furthermore, Figure 3 shows a flow chart, "in step C the ion beam treated and/or milled and coated substrate is heat treated and bent into the desired windshield shape (either alone or together with another substrate). During such heat bending, the glass substrate(s) are heated to temperature(s) of from 570-900 degrees C., more preferably from 580-800 degrees C., for at least 2 minutes, more preferably for at least 5 minutes, so as to enable glass bending and/or tempering" (Thomsen et al., [0060]). Thus showing that the substrate is a tempered glass. Also, in regards to claim 33, showing that the glass is a bent substrate.

In regards to claims 34-36, Thomsen et al teach a coated article as described above. The conductive coating, 5, "may have a sheet resistance of less than or equal to 10 ohms/sq., more preferably less than or equal to 5 ohms/sq. Less than or equal to 5

ohms/sq falls within the applicants' claimed ranges of 0 to 1,000 ohms/sq, 0 to 30 ohms/sq, and 0 to 15 ohms/sq for claims 34, 35, and 36, respectively.

In regards to claim 37, Thomsen et al teach a coated article, as described above. As seen in Figure 6, the coated article comprises Si_3N_4, SnO_2, $NiCrO_x$, TiO_2, and Ag. All of these materials are non-polymeric. The applicants' states in paragraph [0031], "By inorganic coating is meant a non-polymeric coating." Thus, Thomsen et al. teach that the conductive coating is an inorganic coating.

In regards to claim 38, Thomsen et al teach a coated article, as described above. As seen in Figure 6, the coated article comprises Si_3N_4, SnO_2, $NiCrO_x$, TiO_2, and Ag. Wherein, Ag is at least one metal layer included in the conductive coating.

In regards to claim 39, Thomsen et al teach a coated article, as described above. As seen in Figure 6, the coated article comprises Si_3N_4, SnO_2, $NiCrO_x$, TiO_2, and Ag. Wherein, Si_3N_4, SnO_2, and TiO_2 are dielectric layers and Ag, is at least one metal layer, which make up a conductive coating with a multilayer coating stack.

In regards to claim 40, Thomsen et al teach a coated article, as described above. Furthermore, Thomsen et al. teach, "Coating 5 (the conductive coating) may be any suitable solar control coating, including but not limited to any suitable low emissivity coating that blocks infrared and/or ultraviolet radiation" (Thomsen et al., [0043]).

In regards to claim 42, Thomsen et al teach a coated article, as described above. "Vehicle windshields typically include a pair of bent glass substrates laminated together via a polymer interlayer such as polyvinyl butyral (PVB)" (Thomsen et al., [0003]). And

as seen in Figure 6, the coated article comprises two substrates with a polymeric coating holding the two substrates together.

In regards to claim 43, Thomsen et al teach a coated article, as described above. As discussed in paragraph [0038] of Thomsen et al.'s publication, the coated article includes a glass substrate (non conductive), a conductive coating on top of the glass substrate with a thickness in the preferred range, as per Table 1, of 120 to 4300 angstroms. And a polymeric coating over top of the conductive coating. The applicants' state that the conductive coating is applied by either chemical vapor deposition or physical vapor deposition, and also that the polymeric coating is electrodeposited. However, Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.", (In re Thorpe, 227 USPQ 964,966). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product (In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113).

In regards to claim 44, Thomsen et al. teach a coated article as described above. The applicants' state that the conductive coating is deposited by magnetron sputter

vapor deposition. However, Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.", (In re Thorpe, 227 USPQ 964,966). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product (In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113).

In regards to claim 45, Thomsen et al. teach a coated article as described above. An embodiment of the conductive layer, 5, is shown in detail in Figure 6. As shown in Table 1, the $NiCrO_x$ and Ag layers have to be present and all other layers are optional. One embodiment as per Table 1, and Figure 6, provides a glass substrate #1. On top of the glass substrate #1 is a dielectric, TiO_2, which is a metal oxide and reads on applicants' first dielectric layer comprising at least one metal oxide. The next layer is $NiCrO_x$ followed by IR reflector, Ag, which is silver and reads upon applicants' metal layer deposited over the first dielectric layer comprising at least one metal selected to be silver. Followed there after is another $NiCrO_x$ layer and then on top of that layer is another dielectric layer, this time comprising SnO_2, tin oxide, which is a metal oxide and reads upon a second dielectric layer deposited over the metal layer, the second

dielectric layer comprising at least one metal which may be the same or different than that of the first dielectric layer.

In regards to claim 46, Thomsen et al. teach a coated article as described above. As described in paragraph [0038], and as shown in Figure 6, Thomsen et al. show a coated article comprising a glass substrate, a conductive coating; the coated article comprises Si_3N_4, SnO_2, $NiCrO_x$, TiO_2, and Ag. All of these materials are non-polymeric. The applicants' states in paragraph [0031], "By inorganic coating is meant a non-polymeric coating." Thus, Thomsen et al. teach that the conductive coating is an inorganic coating. Furthermore, there is a polymeric coating applied on top of the conductive coating. The applicants' state in paragraph [0023], A polymeric layer, such as a polymeric coating, can be electrodeposited over at least a portion of the conductive coating 16 as described below. Such an electrodeposited coating will hereinafter be referred to as an electrocoat." Therefore any polymeric coating will be considered an electrocoat, and even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.", (In re Thorpe, 227 USPQ 964,966). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed

product and the prior art product (In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113). Thus Thomsen et al. show a coated article comprising: a substrate, at least one conductive coating that since it is metal is inorganic, formed over at least a portion of the substrate; and a polymer coating (electrocoat) that is placed on top of the conductive coating.

In regards to claim 47, see the rejection of claim 46 combined with the rejection of claim 45 as described above by the Examiner.

Claims 46 and 48 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamamori et al. (U.S. 4,999,094).

In regards to claim 48, Kamamori et al. teach a coated article comprising, "a plurality of electrically conductive thin film patterns on an electrically insulative substrate; ... simultaneously electrodeposit(ing) a coloring material and polymer on said conductive film" (Kamamori et al., col. 6, lines 10-20). Furthermore, "Accordingly if a conductive film is patterned as required by vacuum evaporation using a mask, sputtering or etching, the polymer and the pigment can be selectively electrodeposited onto the conductive portions" (Kamamori et al., col. 3, lines 7-15). Thus showing an electrically insulative substrate, a plurality of conductive coating regions formed over the substrate and one or more electrocoats selectively electrodeposited over the conductive coating regions.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thomsen et al. (US 2003/0064198 A1) in view of Corkhill et al. (U.S. 6,280,847 B1).

Thomsen et al. teach a coated article as described above, comprising two glass substrates with a conductive layer and a polymeric layer in between the two glass substrates. "Vehicle windshields typically include a pair of bent glass substrates laminated together via a polymer interlayer such as polyvinyl butyral (PVB)" (Thomsen et al., [0003])". Thomsen et al. fail to teach a thickness of the PVB polymeric coating. It can be assumed that any thickness of PVB can be used as long as it is sufficient in holding together the two substrates. Corkhill et al. teach a vehicle windshield that comprises "a laminated glazing comprising an impact resistant ply of rigid thermoplastic polyurethane bonded to a glass ply by a low modulus adhesive interlayer. Preferably the low modulus adhesive interlayer is a thermoplastic interlayer" (Corkhill et al., col. 3, lines 19-24). Furthermore, Corkhill et al. teach "Such an interlayer itself may be a thermoplastic polyvinyl butyral (PVB)" (Corkhill et al., col. 2, lines 30-35). Finally Corkhill et al. teach "It is found that the use, as an adhesive, of an interlayer, preferably a preformed thermoplastic interlayer, of low modulus between the glass and the high modulus rigid polyurethane prevents cracks propagating through an outer glass ply into the rigid interlayer; it is believed that a low tensile modulus adhesive does this by

blunting the crack tip. A thin adhesive layer having a thickness of as little as 10 microns and ideally about 100 microns or more can be used for this purpose" (Corkhill et al., col. 3, lines 5-18). Corkhill et al. use glazings instead of a conductive layer to provide solar control. It would have been obvious to a person having ordinary skill in the art at the time the present invention was made to use the windshield taught by Thomsen et al. with a layer of PVB that is 10 microns because it has been shown that a polymeric layer of 10 microns is sufficient in holding together a laminated windshield. The two layers of PVB are functional equivalents; therefore it would have been obvious to use a layer of 10 microns so long as the adhesion between the two substrates is adequate. A polymeric layer of 10 microns falls within the applicants' claimed range of 0.2 mils to 1.5 mils, which roughly correlates to 5 microns to 37 microns.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan C. Langman whose telephone number is 571-272-4811. The examiner can normally be reached on Mon-Fri 9:00 am - 4:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JCL

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12/14/06